ISSN (Print) 0023-4001
ISSN (Online) 1738-0006

Korean J Parasitol Vol. 54, No. 5: 553-554, October 2016
https://doi.org/10.3347/kjp.2016.54.5.553

▣ PREFACE

Preface for Special Section on Paleoparasitology

Jong-Yil Chai[1,2,*], Min Seo[3], Dong Hoon Shin[4]

[1]Department of Parasitology and Tropical Medicine, Seoul National University College of Medicine, Seoul 03080, Korea; [2]Korea Association of Health Promotion, Seoul 07653, Korea; [3]Department of Parasitology, Dankook University College of Medicine, Cheonan 31116, Korea; [4]Department of Anatomy and Cell Biology, Seoul National University College of Medicine, Seoul 03080, Korea

In any of specific regions or countries, the patterns of parasite infections are not constant throughout the centuries [1]. Epoch-making events, such as the emergence of agriculture, the beginning of sedentary life, modernization, industrialization, urbanization, and even the development of anti-helminths evidently made serious changes in the history of parasitism. However, our knowledge about how it could evolve for a long time was not sufficient because very few research techniques were available for the study of parasitism of the past.

In this regard, the interdisciplinary collaboration of parasitology and archeology became important at any moment. The researchers subjected the samples collected from archeological sites to the conventional techniques used in parasitology. After the information obtained from the ancient parasite samples was proven to be authentic, the paleoparasitology, the research of the ancient parasite infection, could be regarded as a helpful tool for comprehending the parasitism of the past. Since then, a number of paleoparasitologists tried to get the patterns of parasite infections in history that could not be elucidated by any conventional methods of history and archeology.

By a series of studies for the past several decades, the information about ancient parasitism finally started to be revealed, firmly based upon the actual academic evidences. Such achievements included the studies on the correlation of parasites, human host, and environment, the techniques developed for examining parasite remains preserved in various samples, and the interpretation of parasite findings in archeological remains from a paleogeographic view. In fact, previously published books and special issues successfully provided the most recent techniques and perspectives about paleoparasitology [2-4].

However, comparing with the other regions of the world, paleoparasitological reports had been very rare in Asia. Considering that multiple ancient civilizations prospered in ancient Asia for a long while, the parasitological samples of the same regions must have been studied much intensively because it could provide invaluable information to the concerned paleoparasitologists. Fortunately enough, however, the situation started to be changed at last, by the pioneering works of paleoparasitologists in the continent. In Korea, Japan, China, and Siberia, the scientific analyses managed to reveal the fundamental aspects of the ancient parasite infections there [5-8].

This special section in *The Korean Journal of Parasitology* represents such a development of the paleoparasitological interest among researchers in Asia. This section is composed of multiple paleoparasitology reports from Asia, Europe, America, and the other areas. Briefly, Dufour et al. tries to talk about a case of human trichuriasis from a coffin in Jaunay-Clan site, exhibiting that hygiene and waste management might have been seriously problematic during Roman France period. Reinhard and Araujo are showing the pathoecology of parasitic diseases in relation to the diet and environment, based on the parasitological findings from a mummy of a Brazilian cave. Reinhard et al. also report the temporal and spatial distribution of *Enterobius vermicularis* in the Prehistoric Americas. Novo et al. contribute a review article about the paleoparasitology in Brazil, especially laying focus on the works of 2 great pioneers of the country. Morrow et al. is presenting their results of ELISA for *Toxoplasma gondii* and *Trypanosoma cruzi*.

We also note that 3 different papers are also talking about the parasite infections of ancient Asian society. As there have been very few scientific studies on intestinal parasites in Chinese history, Yeh and Mitchell's work about ancient human parasites in ethnic Chinese populations is very meaningful to

• Received 5 September 2016, accepted 6 September 2016.
* Corresponding author (cjy@snu.ac.kr)

concerned researchers. Slepchenko et al. [8] also try to explain the traditional living habits of the Siberian Taz Tundra people by a paleoparasitological examination of soil samples collected from 19th to 20th century burials. They exhibit that diphyllobothriasis was the most common helminthic infection among the Siberian aboriginal, corroborating the previous ethnographic records about their consumption of uncooked reindeer cerebrum. Finally, Seo et al. [7] is summarizing a series of their studies on the patterns of ancient parasitism prevailing in rural and urban areas of the Korean history. In this paleoparasitological review, they exhibit that living in such highly populated areas could have facilitated the spread of parasite infections among ancient Korean population.

Taken together, paleoparasitology is the application of investigative techniques to archeological samples, revealing the parasitic infection patterns among past populations. Like the previous issue or section of paleoparasitology, the current collection of reports from different continents forms an important data resource that must be significant to forthcoming paleoparasitological studies. We admit that this special section is a kind of declaration that paleoparasitology can be established at last as an important research tool for studying ancient parasite infection patterns even in Asia, the largest and most populous continent with a long history and a deep-rooted cultural heritage.

REFERENCES

1. Reinhard KJ, Araújo A. Archaeoparasitology. In Pearsall DM ed, Encyclopedia of Archaeology. New York, USA. Academic Press. 2008, pp 494-501.
2. Combes C. Paleoparasitology. Mem Inst Oswaldo Cruz 2003; 98(suppl): 1-2.
3. Buikstra JE. EIC Editorial: Introducing the Paleoparasitology Issue. Int J Paleopathol 2013; 3: 139.
4. Ferreira LF, Reinhard KJ, Araujo A. Foundations of Paleoparasitology. FIOCRUZ; Medicina e Saude ed. Manguinhos. 2014.
5. Han ET, Guk SM, Kim JL, Jeong HJ, Kim SN, Chai JY. Detection of parasite eggs from archaeological excavations in the Republic of Korea. Mem Inst Oswaldo Cruz 2003; 98 (suppl): 123-126.
6. Matsui A, Kanehara M, Kanehara M. Palaeoparasitology in Japan-discovery of toilet features. Mem Inst Oswaldo Cruz 2003; 98(suppl): 127-136.
7. Seo M, Araujo A, Reinhard K, Chai JY, Shin DH. Paleoparasitological studies on mummies of the Joseon Dynasty, Korea. Korean J Parasitol 2014; 52: 235-242.
8. Slepchenko SM, Gusev AV, Ivanov SN, Svyatova EO. Opisthorchiasis in infant remains from the medieval Zeleniy Yar burial ground of XII-XIII centuries AD. Mem Inst Oswaldo Cruz 2015; 110: 974-980.